2.   Economic Case

The Economic Case assesses options to identify all their impacts and the resulting value for money. This is a key requirement in fulfilment with HM Treasury's requirement for appraisal. In line with HM Treasury's appraisal requirements, the impacts considered are not limited to those directly impacting on the measured economy, nor to those which can be monetised. The economic, environmental, social and distributional impacts of a proposal are all examined, using qualitative, quantitative and monetised information. In assessing value for money, all of these are consolidated to determine the extent to which a proposal's benefits outweigh its costs.

2.1   Value for Money

Please describe to what extent the proposed scheme has been assessed in terms of value for money. Also explain how this will be developed through the Outline Business Case to provide accurate benefit-cost ratio information.

Where applicable, please include details of all options that have been appraised.

VfM should also include reference to the proposed scheme's economic, social, environmental and public accounts impact. (in line with the DfT's Transport Appraisal Framework)
The Transport Appraisal Process

Introduction

A Benefit Cost Appraisal (BCA) and Gross Value Added (GVA) analysis have been undertaken to assess the economic benefits of the South East Blackburn scheme. The BCA and formulation of a Benefit-Cost Ratio (BCR) will form the main focus of economic appraisal of the scheme in line with WebTAG guidance.

Whilst the calculation of BCR is the traditional approach to assessing the merit of transport schemes, GVA analysis seeks to complement standard transport appraisals where these have already been produced. GVA measures the total value of goods and services; i.e. economic activity. In its simplest terms, it is therefore GDP at a local/regional level, minus indirect taxation.
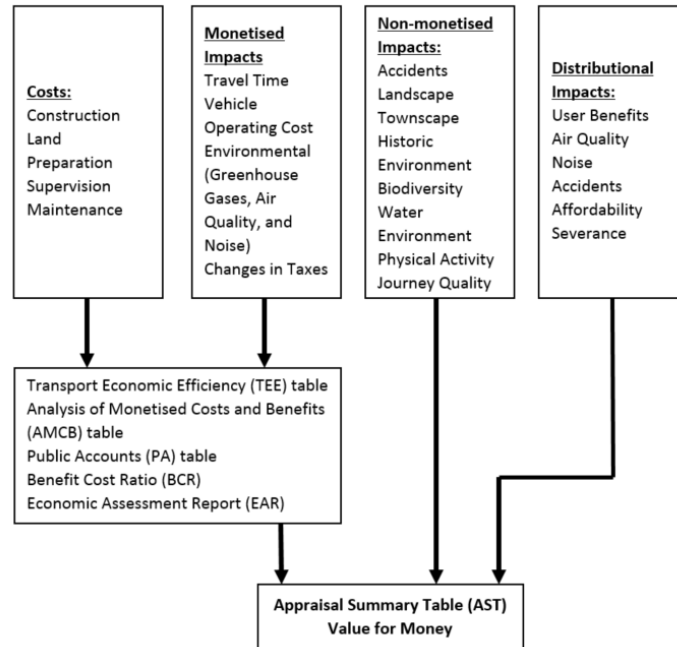
The wider economic impacts of the proposed transport schemes are particularly important to understand in terms of the potential benefits for the locality, and in the context of supporting the funding bid for the scheme as well as the Government's economic growth agenda and the Lancashire SEP objectives.

In line with the LEP's Accountability Framework a proportionate approach has been adopted for the assessment of the economic benefits of the scheme. The modelling and economic appraisal methodology is detailed in the Local Model Development and Validation Report (LMDVR) and a Local Model Forecasting and Economics Report (LMFER), which can be found in Appendix I and Appendix J respectively.

Value for Money (VfM) Overview

Figure 2.2.1 shows the diagram which details the methodology for the VfM assessment of the South East Blackburn schemes.

Figure 2.1. VfM Assessment Process

The VfM assessment is a staged process, which includes appraisal of the scheme's economic, environmental, social, distributional and fiscal impacts using qualitative, quantitative and monetised information.

It starts with analysis of monetised costs and benefits and calculation of the Benefit Cost Ratio (BCR) of the scheme. The next stage is to capture and analyse those impacts which cannot be monetised but can be presented as qualitative information.

Finally, it looks at how the impacts of the scheme are distributed across different social groups – the Distributional Impacts Analysis. The monetised impacts are summed to construct an Initial BCR – that is the amount of benefit being bought for every £1.00 of cost,

Analysis of Monetised Impacts and Costs

The approach to modelling and economic appraisal of the scheme was initially set out in an Appraisal Specification Report (ASR) provided in Appendix K. The ASR has been discussed and agreed with Jacobs (acting on behalf of Lancashire Enterprise Partnership) to ensure the approach conforms with the Department for Transports Transport Appraisal Guidance (WebTAG).

Variable demand modelling has not been undertaken for the proposed scheme and is not likely to have a material impact on scheme outcomes. Any minor variable demand effect is considered to impact on all scenarios

equally given a main objective of the scheme is to maintain levels of service with and without the proposed future development.

From analysis undertaken on base year traffic flows, the potential route choice across the modelled area is considered to be low. Based on turning proportions, the number of trips entering the study area northbound on Roman Road that reach the hospital is 22 in the AM peak and six in the PM peak. As a result, the proposed scheme not expected to have a material impact on route choice.

The summary of the monetised information, along with the BCR, is presented in the standard Analysis of Monetised Costs and Benefits (AMCB) Table, which has been included in the South East Blackburn LMFER provided in Appendix J.

All costs and benefits that are monetised in CBA have been considered following the principles outlined in TAG Unit A1.1 Cost-Benefit Analysis, which can be summarised as follows:

- The impacts of the scheme have been based on the difference between forecasts of the without-scheme (Do-Minimum) and with-scheme (Do-Something) cases;
- The impacts have been assessed over a 60 years appraisal period;
- The magnitude of impacts has been interpolated and extrapolated over the appraisal period drawing on forecasts for the 2021 opening year and the 2036 future year;
- The values placed on impacts are in the perceived costs, factor costs and market prices unit of account, converted as appropriate from factor costs using the indirect tax correction factor;
- The values are in real prices, in the Department's base year, accounting for the effects of inflation;
- The streams of costs and benefits are in present values, discounted to the Department's base year;
- The results have been presented in the appropriate cost-benefit analysis metrics, a Benefit-Cost Ratio (BCR); and
- Sensitivity testing has been undertaken to reflect uncertainty.

Scheme cost estimates have been provided by Capita in November 2019 as a result of contractor tender submissions. Three contractors (EWCE, Casey's and I&H Brown) have submitted their proposals on time. Based on the cost and quality of the submissions, Casey's is to be appointed imminently.

A split of costs provided by Casey's is shown below:

Table 2.1.1. Costs Submitted by Casey's

Series	Haslingden Road	Blackamoor Road	Old Bank Lane / New Hospital Access
Series 100 - Preliminaries	£38,026.81	£797,005.29	£21,288.75
Series 200 - Site Clearance	£39,245.27	£43,628.60	£19,224.79
Series 300 - Fencing	£45,770.70	£54,787.22	£2,535.75
Series 500 - Drainage and Service Ducts	£28,473.99	£320,298.03	£83,355.51
Series 600 - Earthworks	£265,528.83	£793,756.05	£178,193.41
Series 700 - Pavements	£433,411.35	£651,760.12	£144,392.99
Series 1100 - Kerbs, Footways and Paved Areas	£139,890.51	£263,920.71	£64,877.88
Series 1200 - Traffic Signs and Road Markings	£175,116.17	£52,765.41	£4,827.16
Series 1300 - Road Lighting Columns and Brackets	£50,032.50	£43,312.50	£30,345.00
Series 1400 - Electrical Work for Road Lighting and Traffic Signs	£56,407.75	£61,590.65	£26,788.10
Series 1700 – Structural Concrete	£14,017.50	£13,778.78	£12,300.75
Series 2400 - Brickwork, Blockwork and Stonework	£63,022.11	£45,007.42	£18,207.00
Series 3000 - Landscape and Ecology	£143,093.90	£134,094.74	£47,146.08
GRAND TOTAL	**£1,492,037.39**	**£3,275,705.52**	**£653,483.18**

The base cost estimates are provided in Table 2.1.2.

Table 2.1.2. Cost Summary

Cost	Haslingden Road	Blackamoor Road	Old Bank Lane / New Hospital Access
Construction	£1,492,037	£3,275,706	£653,483
Land	£575,500	£0	£45,000
Statutory Undertakers C4	£1,698,065.60	£872,702	£743,719
Project Risk	£389,191.88	£506,104.92	£170,458.42
TOTAL	**£4,154,794**	**£4,654,513**	**£1,612,661**
Preparation	£910,956		
Supervision	£227,076		
Total	**£11,560,000**		

The scheme costs shall occur in three financial years, as per the project delivery programme, provided in Appendix L. The base cost estimates have therefore been profiled over four years, as shown in Table 2.1.3.

Table 2.1.3. Base Cost Estimates

	2018/19	2019/2020	2020/2021	Total
Scheme Overall				
Construction		£1,735,713	£7,000,000	£8,735,713
Land		£620,500		£620,500
Preparation	£160,000	£750,956		£910,956
Supervision		£77,076	£150,000	£227,076
Risk		£315,755	£750,000	£1,065,755
Total	**£160,000**	**£3,500,000**	**£7,900,000**	**£11,560,000**

The effects of inflations have been taken into account by applying a Gross Domestic Product (GDP) deflator, which reflects the prices of all domestically produced goods and services in the economy. To convert the nominal prices (when inflation is not taken into account) to 'real' prices (when inflation is taken into account) in the Department's price base year, which is currently 2010, the following formula has been applied:

$$Real\ Price_y = Nominal\ Price_y * GDP\ deflator_{base} / GDP\ deflator_y$$

The relevant growth rates, including forecast increases in GDP per capita and per household have been obtained from the TAG Data Book.

In line with the WebTAG Unit A1.1 section 2.7 'Present values and discounting', the scheme's costs have been discounted to reflect people's preferences for current consumption over future consumption. A 'discount rate', which represents the extent to which people prefer current over future consumption, is applied to convert future costs and benefits into their 'present value', the equivalent value of a cost or benefit in the future occurring today. A discount rate of 3.5% has been applied from the A1.1.1: Green Book Discount Rates, for the 2018/2019, 2019/2020 and 2021/2022 financial years. A discount rate of 3.5% has also been applied for the years between the current year of 2019 and the base year of 2010.

As each of the SE Blackburn GD3 schemes are minor schemes, this Strategic Outline Business Case (SOBC) should be considered, as a Full Business Case, as the BCR is calculated based on tendered costs. In line with TAG Unit A1.2 Scheme Costs, the optimism bias at 3% have therefore been used.

Summing up the stream of discounted cost results in the 'present value of costs' (PVC), the value of a cost in the base year equivalent to the stream of estimated costs. The detailed estimates of the PVC are provided in the LMFER (Appendix J). For the combined scheme the PVC is approximately £7,721,000.

The scheme's benefits have been calculated based upon the delay reduction associated with the combined package of schemes, derived by comparing

the Do-Minimum (DM) and the Do-Something (DS) scenarios. The benefits have been calculated at an aggregated level (i.e. for all schemes in combination).

Each scenario has been compared for the 2021 opening year and the 2026 future year for the AM peak, Inter Peak (IP) and PM peak hours.

Assumptions have been made around trip rates from future developments impacting on the modelled area, with the exact future use of a number of sites, particularly around RBH and the Medipark site, currently unknown. These could be supply chain industries for the hospital with shift patterns outside of peak periods. Future forecast growth across the network inclusive of dependent development has been controlled to Tempro in line with WebTAG guidance.

Delay reduction has been derived for the calculated demand in the 2021 opening year and the 2026 future year using VISSIM microsimulation traffic models. Following this, annual transport benefits have been calculated and forecasted over a 60-year appraisal period in line with the WebTAG recommendations and standard values using TUBA. Finally, sensitivity testing has been undertaken around the core scenario.

AM and PM peak hour data from the VISSIM modelling has been annualised within TUBA to consider relative delay across 253 weekdays over a 12-month period and levels of delay during peak periods beyond the modelled AM and PM peak hours.

In line with the TAG Unit A1.1, the appraisal results are presented in the appropriate cost-benefit metrics. The two most commonly used metrics are the 'benefit-cost ratio' (BCR) and the 'net present value' (NPV).

The BCR is given by PVB/PVC and therefore indicates how much benefit is obtained for each unit of cost, with a BCR greater than 1 indicating that the benefits outweight the costs. As per DfT guidance, the BCR determines the Value for Money (VfM) category the scheme falls within, as defined below:

- Less than 1.0 – 'poor' VfM
- Between 1.0 and 1.5 – 'low' VfM
- Between 1.5 and 2.0 – 'medium' VfM
- Between 2.0 and 4.0 – 'high' VfM
- Greater than 4.0 – 'very high' VfM

The NPV is calculated as the sum of future discounted benefits minus the sum of future discounted costs: PVB-PVC. A positive NPV means that discounted benefits outweigh discounted costs. BCR and NPV for the core scenario are summarised in Table 2.1.4.

Table 2.1.4. Appraisal Results

Cost	Scheme Overall (£,000)
PVC	£7,721
PVB	29,256,000
BCR	**3.27**
NPV	21,535,000

WebTAG worksheets for the core scenario are provided within Appendix J.

Analysis of Non-Monetised Impacts and Costs

The second stage of a Value for Money assessment builds on the initial monetised costs and benefits and considers qualitative and quantitative information on those impacts which cannot be monetised and how these contribute to the Value for Money of the scheme.

Although a detailed appraisal of non-monetised impacts has been scoped out, using qualitative information a qualitative assessment score has been given to each of the impacts Environmental and Social impacts.

The results of non-monetised impacts are summarised within the AST provided as Appendix S.

Analysis of Distributional Impacts

Finally, to understand the impacts of the scheme on different social groups, including those which are potentially more vulnerable to the effects of transport, the Distributional Impacts (DI) appraisal has been undertaken. The DI analysis is mandatory in the scheme appraisal process and as a minimum is required for the following five impacts: User Benefits, Noise, Air Quality, Accidents and Personal Affordability.
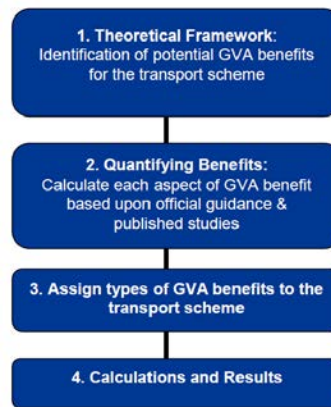
Full details of the methodology and results for each DI impact are given within the Social and Distributional Impacts Appraisal Report and included as Appendix M. The results of the DI Appraisal are also reported within the AST.

GVA Assessment

The GVA analysis seeks to complement standard transport appraisals. The wider economic impacts of the proposed transport schemes are particularly important to understand in terms of the potential benefits for the locality and the Government's economic growth agenda.

The analysis of potential GVA benefits has been undertaken in the following stages, as summarised in Figure 2.1.2.

Figure 2.1.2. Theoretical GVA Framework

1. **Theoretical Framework:**
Identification of potential GVA benefits for the transport scheme

2. **Quantifying Benefits:**
Calculate each aspect of GVA benefit based upon official guidance & published studies

3. **Assign types of GVA benefits to the transport scheme**

4. **Calculations and Results**

GVA measures the total value of goods and services, i.e. economic activity. In its simplest terms, it is therefore GDP at a local/regional level minus indirect taxation.

Unlike standard transport appraisals, there is not a single methodology for estimating the impacts of a scheme on GVA, employment or similar measures of the performance of the real economy. Methodologies often vary considerably across studies.

Different methods have particular strengths and weaknesses, and thus there is no single definition of what GVA is or how it should be quantified in the context of transport appraisal.

In this context, a bespoke methodology has been developed to provide a consistent theoretical framework for assessing additional economic benefits. This ensures that the scheme is subject to a standard process and quantification of benefits; albeit using local variations in GVA per job, and local transport capacity constraints overcome.

Not all elements of GVA benefits are applicable for every type of scheme. The change as a result of unlocked development has been considered appropriate for the South East Blackburn scheme and has subsequently been assessed.

A total of 647 houses would be scheme dependent, comprising 70 dwellings at the Blackamoor Road Development site, 70 dwellings at Johnson Road, 140 on Haslingden Road and 367 across the Fishmoor Drive parcels.

The scheme is also expected to deliver 3,857 jobs across new employment developments at Waterside Employment Site, Blakewater College, Medipark and the Blackamoor Road development site.

Sites identified as being scheme dependent are listed in Appendix U. A letter from Planning Manager of BwDBC confirming the South East Blackburn

Developments sites as being dependent on the scheme is provided in Appendix T.

Benefits generated by dependent housing are quantified by multiplying the number of houses by GVA benefits per new house, which is £10,283[1]. Benefits generated by dependent employment are quantified by multiplying the number of jobs by GVA benefits per employee, which is £20,566.

The benefits over the appraisal period have been discounted using a 3.5 per cent discount rate as defined in the WebTAG. This is in line with Treasury Green Book guidance and is applicable to years 1 to 30 where appropriate. A discount rate of 3% has been applied beyond this.

The following results have been obtained from the GVA analysis:

- Scheme Case Discounted Total GVA 15 years (2010 prices): £615,988,089
- Scheme Case Discounted Total Adjusted GVA 60 years (2010 prices): £240,235,355
- Average GVA per annum (2010 prices discounted adjusted): £16,015,690

Given an investment of £11.56m, this would be returned within a year of the scheme opening. However, this figure represents an average over the appraisal period of the scheme and gives the profiling of benefits, which may not be recouped for several years.

These benefits have not been incorporated within the published BCRs set out in Section 4.1, but is should be noted that the scheme meets the criteria for investment as set out by the LEP, without the GVA addition to the case.

The details of the GVA assessment are provided within the Local Model Forecasting and Economics Report provided as Appendix J.

AMCB Table

The Analysis of Monetised Costs and Benefits (AMCB) table is an industry standard table published by the DfT for the presentation of all monetised impacts of a scheme considered sufficiently robust for inclusion in the NPV and BCR.

Table 2.1.6 summarises the outputs of the BCA for the North Blackburn scheme core scenario (for the scheme overall). All TAG worksheets are provided within the Local Model Forecasting and Economics Report provided as Appendix J.

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[1] https://www.ons.gov.uk/economy/grossvalueaddedgva/datasets/regionalgrossvalueaddedincomeapproach

Table 2.1.6. AMCB Table

Scheme Overall	Value (£,000)
Noise	£0
Air Quality	£0
Greenhouse Gases	£0
Journey Quality	£0
Physical Activity	£0
Accidents	-£4,016
Economic Efficiency: Consumer Users (Commuting)	£11,866
Economic Efficiency: Consumer Users (Other)	£13,190
Economic Efficiency: Business Users and Providers	£6,027
Wider Public Finances (Indirect Taxation Revenues)	-£1,827
Present Value of Benefits (PVB)	£29,256
Broad Transport Budget	£7,721
Present Value of Costs (PVC)	£7,721
Net Present Value (NPV)	£21,535
Benefit to Cost Ratio (BCR)	**3.27**

With a BCR of 3.27 and NPV of £17,519,000 the scheme represents a 'high' VfM meeting the threshold for approval for funding from LEP as per LEP Accountability Framework.

Additional sensitivity tests covering low and high growth scenarios and the impact of dependent development have also been carried out with the resulting BCRs presented in Table 2.1.7 below:

Table 2.1.7 – BCR Summary Table

Scenario	BCR
Core	3.27
Low Growth	1.36
High Growth	3.93

Dependent Development Scenarios (Level 3 Analysis)	BCR
Switching Value Test (Low)	0.59
Switching Value Test (Medium)	0.89
Switching Value Test (High)	1.39
Switching Value Test (Very High)	1.79

Table 2.1.8. Very High Additionality Switching Test - AMCB Table

Scheme Overall	Value (£,000)
Externalities	-£22,192
Land Value Uplift – Residential	£6,886
Land Value Uplift - Employment	£3,887
Additionality	70%
Accidents	-£4,016
Economic Efficiency: Consumer Users (Commuting)	£11,866
Economic Efficiency: Consumer Users (Other)	£13,190
Economic Efficiency: Business Users and Providers	£6,027
Wider Public Finances (Indirect Taxation Revenues)	-£1,827
Present Value of Benefits (PVB)	£13,821
Broad Transport Budget	£7,721
Present Value of Costs (PVC)	£7,721
Net Present Value (NPV)	£6,100
Benefit to Cost Ratio (BCR)	**1.79**

2.2   Economic Assumptions

Please describe any economic assumptions made or that will be made as part of future appraisal work and the development of the Outline Business Case.

Overview

This section summarises the key assumptions supporting the Value for Money analysis. This includes the assumptions set out in WebTAG as well as further assumptions specific to the scheme.

Time Periods

The following time periods and peak hours will be modelled and forecast:

- 07:00 – 09:00 (07:30 – 08:30 assessed peak hour); and
- 16:00 – 18:00 (16:30 – 17:30 assessed peak hour).

Traffic Growth

Two future years have been considered, the 2021 scheme opening year (based on current delivery programme) and the 2026 future forecast year (5 years following scheme implementation).

TEMPro version 7.2 has been used to establish background traffic growth factors from 2019 to 2021 and from 2019 to 2026.

Traffic growth factors adjusted by the National Trip End Model (NTEM) have been derived for BwD local authority area.

Committed Developments

Growth and development proposals across south east Blackburn have been reviewed in conjunction with a growth pipeline provided by BwDBC and based on the BwD Growth Programme.

The following four developments have been considered as committed developments, with detailed trip generation and distribution information provided the Local Model Forecasting and Economics Report:

- Premier Way (Walker) Business Park (Site A, planning app 10/19/0555)
- Roman Road (Nr Davyfield Site) (Site B, planning app 10/18/0800)
- School Lane (Site C, planning app 10/18/0075)
- Shadsworth Plot C (Site D, planning app 10/16/1303)
- Haslingden Road (Brandy House) Site (Site E, planning app 10/09/0414)
- Old Bank Lane (New RBH) Car Park (Site F, planning app 10/17/1083)

Potential Future Developments

Future development with the prospect of significant trip generation onto the local highway network, beyond that which is already committed as listed above, is considered to be dependent on the current proposed scheme.

Current scheme proposals are considered to be the minimum transport scheme required to restore the network to a reasonable level of service and represent the preferred highway intervention option at specific locations across south east Blackburn.

Details of identified potential future development sites considered to be dependent on the south east Blackburn Growth Corridor package of scheme can be found in Table 2.2.1 below.

Table 2.2.1. Potential Future/ Dependent Development

Site Name	Site Type	Number of Homes	Employment GFA (sq m)
Blackamoor Road Development Site	Employment	-	37,600
Blackamoor Road Development Site	Housing	70	-
Fishmoor Drive (Parcel 1) - Former THL Land	Housing	201	-
Fishmoor Drive (Parcel 2) - Former T2000	Housing	65	-
Fishmoor Drive (Parcel 3) Newfield School	Housing	101	-
Haslingden Road (Fishmoor Reservoir) Site	Housing	140	-
Johnson Road	Housing	70	-
Medipark Site	Employment	-	18,500
TIBS / Fmr Blakewater College (Employment)	Employment	-	19,500
Waterside Employment Site (Parcel A) - EG Waterside	Employment	-	11,495
Waterside Employment Site (Parcel B)	Employment	-	4,500

Scenarios

The following scenarios applied to future forecast years are defined as
follows:

- **Do-Minimum (DM):** Existing highway network under without
  scheme conditions, with slight modifications to facilitate likely
  highway changes providing access to development sites under DM
  conditions; and
- **Do-Something (DS):** The overall proposed scheme (with scheme
  conditions) including all proposed interventions and highway
  changes, as well as minor highway changes at other locations to
  provide access to potential future development sites.

Dependent Development Scenarios

The following forecasting scenarios have been derived as defined in TAG
Unit A2.2:

- 'P' Scenario: Without Transport Scheme (DM), without Dependent
  Development
  - Base year demand + 'deadweight' (committed and non-

dependent development)

- 'Q' Scenario: Without Transport Scheme (DM), with Dependent Development
    - The 'core' scenario, with traffic growth across the network controlled to NTEM forecasts
    - Base year demand + Background growth and 'deadweight' + Dependent development
- 'S' Scenario: With Transport Scheme (DS), without Dependent Development
    - Base year demand + 'deadweight' (committed and non-dependent development)
- 'R' Scenario: With Transport Scheme (DS), with Dependent Development
    - The 'core' scenario, with traffic growth across the network controlled to NTEM forecasts
    - Base year demand + Background growth and 'deadweight' + Dependent development

Modelling Methodology

PTV VISSIM (V11.00.09) has been used to model and appraise the relative user benefits of the proposed scheme. This has been Calibrated and Validated to a 2019 base year in line with TAG guidelines and best practice microsimulation modelling guidance. Full details of baseline model validation can be found in the Local Model Validation Report (Appendix I)

Future year traffic modelling will be undertaken from the calibrated and validated 2019 baseline VISSIM model forecast modelling includes changes to vehicle inputs, vehicle compositions and vehicle relative flows to reflective future forecast scenarios and network changes.

For changes to signalised junctions, LinSig models were constructed based on the proposed junction arrangement, phasing and staging plan to provide optimised green times.

Vehicle Travel time savings are estimated from VISSIM model runs between scenarios, used to assess the relative performance of the scheme between comparable DM and DS future forecast traffic flow conditions.

Key Appraisal Assumptions

A summary of key economic appraisal assumptions can be found in Table 2.2.2 below.

Table 2.2.2. Appraisal Assumptions Summary

Specification	Criteria/ Assumption
Base Year	2019
Scheme Opening Year	2021
Future Modelled Year	2026
Appraisal Period	60 years (2021 – 2080)
Economic Price Base	2010
WebTAG Databook Version	May 2019

Benefits Capture and Annualisation

The DfTs Transport User Benefit Analysis (TUBA) software (v1.9.12) has been used to derive economic benefit over a 60-year appraisal period arising from travel time savings, vehicle operating costs and greenhouse gases, as well as derive an estimate of the overall South East Blackburn Growth Corridor scheme BCR.

Traffic volume, travel distance and travel time matrices for input into TUBA have been derived from VISSIM outputs using travel time counters at all points of entry/ exit from the modelled network for each defined user class.

Although it is recognised that expansion factors are typically used to growth traffic totals for analysis rather than benefits, the methodology is consistent with other BCR technical reports prepared in support of similar sized schemes in Lancashire and elsewhere. Furthermore, there are currently no permanent monitoring sites in BwD that could be used to derive robust annualisation factors.

As a result, AM and PM peak hour data from the VISSIM modelling has been annualised within TUBA to consider relative delay across 253 weekdays over a 12-month period and levels of delay during peak periods beyond the modelled AM and PM peak hours.

Journey purpose splits were applied to each user class and sourced from the TAG Databook (May 2019). The following user class vehicle splits have been used for appraisal of scheme benefits:

- Car Employers Business;
- Car Commute;
- Car Other;
- LGV (Employers Business);
- LGV (Commute); and
- HGV (Employers Business);

Values of Time (VoT) applied to each user class are included in the economic parameters file within TUBA software sourced from the TAG Databook, as

	well as relative growth in VoT in future forecast years across the appraisal period. Monetised benefits are estimated by TUBA in 2010 market prices and values to provide a TAG compliant estimate of the overall scheme BCR.
	The DfTs Cost Benefit Analysis Light Touch (COBALT) software has been used to estimate the relative change traffic collisions.
	TUBA provides estimates of Greenhouse Gas (GHG) reduction benefits across the scheme area. These are monetised and included in the estimate of the overall scheme BCR.
2.3 Sensitivity & Risk Profile *If applicable, please describe how changes in economic, environmental and social factors could affect the impact of the proposed scheme in terms of its benefit and costs.*	In addition to the core scenario, the proposed scheme has also been modelled without the proposed dependent development, with only committed development added to base year traffic levels. This is considered to represent a 'low' growth scenario, with relatively low traffic growth added to the network under future year forecast conditions. The BCR for the scheme when appraised under these traffic flow conditions is 3.37, with the scheme still providing 'high' VfM.
2.4 Value for Money Statement *Using the Appraisal Summary Table (AST) (see section 2.5), please include a summary of the conclusions from the Value for Money assessment. The statement should provide a concise summary of the proposed scheme's economic, environmental, social and public accounts impact.*	The appraisal results for the core scenario of the South East Blackburn Growth Corridor scheme demonstrate a BCR of 3.27 and NPV of £17,519,000, which means a 'high' VfM.
	In view of the positive findings, it has been concluded that the proposed South East Blackburn Growth Corridor scheme should be taken forward.
	In addition, a GVA analysis has been undertaken using an evidence-led, theoretically consistent framework approach, based on available studies and parameters (in absence of commonly recognised and adopted methodology).
	A net GVA over the appraisal period of £16,015,690 per annum averaged over a 15-year appraisal period has been calculated based on the locally adjusted GVA values (in 2010 discounted prices).
	The scheme is expected to have a neutral beneficial impact against the majority of social and environmental impacts, including physical activity, security, affordability, severance and accessibility. A slight positive impact is expected on journey quality, with reduced congestion across the corridor along Haslingden Road, Blackamoor Road and Roman Road.
	A slight positive impact is expected on air quality as a result of the scheme, with reduced traffic flows through the Roman Road/ Stopes Brow junction AQMA as well as reduced congestion and delay at this location and along the A6077 Haslingden Road.
	A slight negative impact on traffic accidents has been estimated across the corridor, however a number of scheme elements are considered to improve

highway safety for both vehicle and active travel mode users across the corridor through measures not captured in COBALT analysis.

Table 2.4.1 - Economic Output Comparison

Economic Output	Pennine Gateway Original Target	New Target to 2025	Remainder to meet Target	SE Blackburn Forecast (Difference vs target)
Housing units	870	1,000	573	647 (+74)
Private sector investment	£125m	£178m	£138m	£165m (+£27m)
Jobs	3,750	3,950	3,512	3,857 (+345)
Commercial floor space	64,000 m^2	73,290 m^2	£55,790m^2	91,595m^2 (+35,805m^2)
GVA	£415m	£454m	£201m	£240m (+£39m)

Private Sector Investment Breakdown

Site Name	Site type	Number of homes	Employment GFA (sq m)	Private Sector Investment / approximate construction value
Blackamoor Road development site	Employment		37,600	£37,600,000
Blackamoor Road development site	Housing	70		£7,000,000
Fishmoor Drive (Parcel 1) – former THL Land	Housing	201		£20,100,000
Fishmoor Drive (parcel 2) – former T2000	Housing	65		£6,500,000
Fishmoor Drive (parcel 3) – Newfield School	Housing	101		£10,100,000
Fishmoor Drive (Fishmoor reservoir) site	Housing	140		£14,000,000
Johnson Road	Housing	70		£7,000,000
Medipark site	Employment		18,500	£18,500,000
TIBS / Former Blakewater College (Employment)	Employment		19,500	£17,550,000

	Waterside Employment site (Parcel A)	Employment		11,495	£22,990,000
	Waterside Employment site (Parcel B)	Employment		4,500	£4,050,000
	Total		**647**	**91,595**	**£165,390,000**

Construction Rates (all in rate)			
Infrastructure	=	£0	/m2
High grade commercial units	=	£1,000	/m2
Medium grade commercial units	=	£900	/m2
Low grade commercial units	=	£800	/m2
Out of town retail, leisure or commercial	=	£1,800	/m2
Offices	=	£2,000	/m2
Retail	=	£2,200	/m2
Leisure	=	£2,300	/m2
Mixed Use	=	£2,000	/m2
Specialist Housing	=	£125,000	/ Unit
General Housing	=	£100,000	/ Unit

Economic Case Summary

A Benefit Cost Appraisal and Gross Value Added analysis have been undertaken to assess the economic benefits of the South East Blackburn Growth Corridor scheme.

The Value for Money assessment is a staged process which includes appraisal of the scheme's economic, environmental, social, distributional and fiscal impacts using qualitative, quantitative and monetised information.

The scheme's benefits have been calculated based upon the journey time delay savings associated with the scheme implementation and have been derived by from VISSIM modelling of the 'with-scheme' and the 'without-scheme' scenarios, with model outputs assessed using the DfTs TUBA software

The South East Blackburn Growth Corridor scheme appraisal demonstrates a 'high' value for money and meets the threshold for approval for funding from LEP as per the LEP Accountability Framework based on a core BCR of 3.27 for the scheme.

In addition, a GVA analysis has been undertaken using an evidence-led, theoretically consistent framework approach, based on available studies and parameters (in absence of commonly recognised and adopted methodology).

The GVA benefits have been calculated based on the 'without scheme' GVA subtracted from the 'with scheme' GVA.

The scheme will generate additional £240,235,355 GVA benefits for the local economy. A net GVA over the appraisal period of £16,015,690 per annum averaged over a 15-year appraisal period (from scheme opening) has been calculated based on the locally adjusted GVA values (in 2010 discounted prices). The net GVA benefit has been calculated based upon development of 647 scheme dependent dwellings and 3,857 jobs.

Further qualitative analysis has been undertaken on those environmental impacts which have not been monetised A slight positive impact on air quality is envisaged to result from the proposed scheme. A neutral impact is envisaged on the majority of other environmental impacts. A slight negative impact on accidents is expected to result from the scheme.

Finally, in order to understand the impacts of the scheme on different social groups (including those which are potentially more vulnerable to the effects of transport) a Distributional Impacts appraisal has been undertaken. User benefits are expected to be felt across a large proportion of the population considered to be in the 20% most income deprived nationally. A slight disbenefit to accidents is not expected to disproportionately impact on vulnerable user groups.